

A M E N D M E N T

IN THE CLAIMS:

Please **add** claims 29-32, and **amend** claims 1, 9, 14 and 24 such that the claims read as follows:

1. (Currently Amended) An apparatus for use in supporting a substrate carrier comprising:

an overhead transfer flange adapted to couple to a substrate carrier body and to couple to an a moving overhead carrier support in a direction of motion of the overhead carrier support, the overhead transfer flange having:

a first side;

a second side opposite the first side that is wider than the first side;

a third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support; and

a fourth side opposite the third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support;

wherein the blades of the third side and the fourth side of the overhead transfer flange extend from the first side to the second side along non-parallel paths.

2. (Canceled)

3. (Previously Presented) The apparatus of claim 1 wherein the third side and the fourth side are separated by an angle of about 60 degrees.

4. (Canceled)

5. (Canceled)

6. (Previously Presented) The apparatus of claim 1 wherein each blade has a blunted blade edge.

7. (Original) The apparatus of claim 6 wherein each blade has a radiused blade edge.

8. (Previously Presented) The apparatus of claim 1 wherein:

the blade of the third side of the overhead transfer flange has a surface that is angled so as to mate with an angled surface of a first supporting feature of the overhead carrier support; and

the blade of the fourth side of the overhead transfer flange has a surface that is angled so as to mate with an angled surface of a second supporting feature of the overhead carrier support.

9. (Currently Amended) A substrate carrier comprising:

a substrate carrier body adapted to support one or more substrates; and

an overhead transfer flange coupled to the substrate carrier body and adapted to couple to ~~an~~ a moving overhead carrier support in a direction of motion of the overhead carrier support, the overhead transfer flange having:

a first side;
a second side opposite the first side that is wider than the first side;
a third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support; and
a fourth side opposite the third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support;

wherein the blades of the third side and the fourth side of the overhead transfer flange extend from the first side to the second side along non-parallel paths.

10-12. (Canceled)

13. (Previously Presented) The apparatus of claim 9 wherein:

the blade of the third side of the overhead transfer flange has a surface that is angled so as to mate with an angled surface of a first supporting feature of the overhead carrier support; and

the blade of the fourth side of the overhead transfer flange has a surface that is angled so as to mate with an angled surface of a second supporting feature of the overhead carrier support.

14. (Currently Amended) An apparatus for use in supporting a substrate carrier comprising:

an overhead carrier support adapted to couple to and suspend a substrate carrier while in motion

via an overhead transfer flange, the overhead carrier support having:

 a first side;

 a second side opposite the first side that is wider than the first side;

 a third side extending from the first side to the second side and including a channel adapted to engage a first feature of the overhead transfer flange; and

 a fourth side opposite the third side extending from the first side to the second side and including a channel adapted to engage a second feature of the overhead transfer flange;

 wherein the channels of the third side and the fourth side of the overhead carrier support extend from the first side to the second side along non-parallel paths.

15. (Canceled)

16. (Previously Presented) The apparatus of claim 14 wherein the third side and the fourth side are separated by an angle of about 60 degrees.

17. (Canceled)

18. (Canceled)

19. (Previously Presented) The apparatus of claim 14 wherein:

 the channel of the third side of the overhead carrier support has a surface that is angled so as

to mate with an angled surface of a first blade of the overhead transfer flange; and

the channel of the fourth side of the overhead carrier support has a surface that is angled so as to mate with an angled surface of a second blade of the overhead transfer flange.

20. (Original) The apparatus of claim 19 wherein the channel of the third side and the channel of the fourth side are separated by an angle of about 60 degrees.

21. (Original) The apparatus of claim 14 wherein the overhead carrier support is adapted to couple to an overhead conveyor system for use in transporting substrates within a semiconductor device fabrication facility.

22. (Original) The apparatus of claim 14 wherein the overhead carrier support is adapted to couple to a storage shelf for use in storing substrates within a semiconductor device fabrication facility.

23. (Original) The apparatus of claim 14 wherein the overhead carrier support is adapted to support a substrate carrier during at least one of docking of the substrate carrier to a loadport of a processing tool and undocking of the substrate carrier from the loadport of the processing tool.

24. (Currently Amended) A method of supporting a substrate carrier comprising:

providing a substrate carrier having:

a substrate carrier body adapted to support one or more substrates; and
an overhead transfer flange coupled to the substrate carrier body and adapted to couple with an a moving overhead carrier support in a direction of motion of the overhead carrier support, the overhead transfer flange having:

a first side;
a second side opposite the first side that is wider than the first side;

a third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support; and

a fourth side opposite the third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support;

wherein the blades of the third side and the fourth side of the overhead transfer flange extend from the first side to the second side along non-parallel paths;

providing an overhead carrier support adapted to suspend the substrate carrier via the overhead transfer flange, the overhead carrier support having:

a first side;
a second side opposite the first side that is wider than the first side;

a third side extending from the first side to the second side adapted to receive the third side of the overhead transfer flange; and

a fourth side extending from the first side to the second side adapted to receive the fourth side of the overhead transfer flange;

coupling the overhead transfer flange and the overhead carrier support so as to support the substrate carrier.

25. (Original) The method of claim 24 wherein coupling the overhead transfer flange and the overhead carrier support comprises:

raising at least a top of the overhead transfer flange above a bottom of the overhead carrier support; and

lowering the overhead transfer flange into engagement with the overhead carrier support.

26. (Original) The method of claim 25 wherein raising at least a top of the overhead transfer flange above a bottom of the overhead carrier support comprises raising the overhead transfer flange so that a footprint of the overhead transfer flange overlaps a footprint of the overhead carrier support while the overhead transfer flange is being raised.

27. (Original) The method of claim 24 wherein the overhead carrier support is coupled to an overhead conveyor system for use in transporting substrates within a semiconductor device fabrication facility.

28. (Original) The method of claim 24 wherein the overhead carrier support is coupled to a storage shelf for

use in storing substrates within a semiconductor device fabrication facility.

29. (New) An apparatus for use in supporting a substrate carrier comprising:

an overhead transfer flange adapted to couple to a substrate carrier body and a moving overhead carrier support, the overhead transfer flange having:

a first side;

a second side opposite the first side that is wider than the first side;

a third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support; and

a fourth side opposite the third side extending from the first side to the second side and including a blade adapted to engage supporting features of the overhead carrier support;

wherein the blades of the third side and the fourth side of the overhead transfer flange extend from the first side to the second side along non-parallel paths and engage with the supporting features of the overhead carrier support such that the overhead transfer flange is prevented from moving relative to the overhead support in a non-vertical direction.

30. (New) The apparatus of claim 29, wherein the overhead carrier support provides a window for capturing the overhead transfer flange that narrows in a direction of motion of the overhead carrier support.

31. (New) The apparatus of claim 30, wherein upon an impact in a direction opposite to the direction of motion of the overhead carrier support, the overhead transfer flange is adapted to decouple from engagement with the overhead carrier support.

32. (New) The apparatus of claim 29, wherein the blade on the third side and the blade and the fourth side form a chevron.